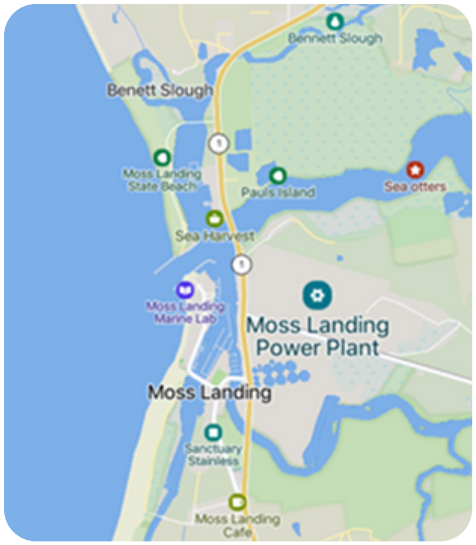
MOSS LANDING BESS FIRE REPORT SUMMARY

December 2025

The fire at the Moss Landing BESS Facility in California in January 2025 is among several fires at battery energy storage system (BESS) facilities in recent years. With significant additions of battery storage planned, the incident highlights the importance of evolving standards.

- Moss Landing was one of the first large-scale battery storage systems and was built prior to the release of the first fire safety standard for energy storage systems (NFPA 855).
- While the Moss Landing BESS was an indoor facility, most newer facilities feature outdoor containerized configurations to mitigate fire risks and contain thermal runaway conditions.

The Moss Landing fire serves as a learning opportunity for the energy industry, reinforcing the need to adhere to the most current safety standards as the number of BESS increases.



KEY FINDINGS

- The Moss Landing fire highlights the need for retroactive safety evaluations of BESS facilities built prior to the current version of NFPA 855.
- Most new BESS adopt outdoor containerized designs, reflecting lessons learned from early failures.
- Operating a BESS at a high state of charge increases the energy available in the event of a thermal runaway.

BEST PRACTICES

- Entities should consider fire-suppression approaches when planning BESS facilities.
  - For example, water-based suppression systems can damage equipment and potentially cause or exacerbate a BESS fire.
- Older BESS should be evaluated and retrofitted to meet current fire safety standards to the extent possible.
- Entities looking to install or who are already operating a BESS should consider the following factors:
  - Select appropriate cell chemistry for operational needs.
  - Implement proven thermal management system (TMS) designs.
  - Establish safe operating parameters, including:
    - Maximum state of charge (SOC) operation
    - Controlled operating temperatures
    - Appropriate operating margins for legacy BESS (especially warehouse style or those that have a water based Thermal Runaway Mitigation System)
- BESS owners and operators should create emergency response plans and work with first responders and local officials to conduct fire rehearsals, training, and drills.

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